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# DARK ENERGY AND QUANTUM GRAVITATION, FROM NEUTRINO OSCILLATIONS

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We argue that the present classical formalism of neutrino oscillations is just approximate (cf. PDG 2006), thus still requiring various second-order corrections : internal momentum dispersion from internal mass dispersion ; apparent violation of Lorentz invariance, in transitions of the kind m1 => m2 , between different mass eigenstates, salient in phase factors through the energy shifts (m22 – m12)/(2p) , and to be cured ; so, necessary transfers of quadri-momentum from any medium, even from "vacuum" ; so, evidence of ethereal "dark energy" of purely weak essence within vacuum oscillations ; actual violation of some deeply rooted principles of quantum mechanics (particle elementarity, orthogonality between eigenstates amplitudes, Wigner's rules of super-selection, Heisenberg's relations of uncertainty) ; strict non-hermiticity of the Hamiltonian operator, involving finite proper lifetimes ; neutrino mass matrices duly of the "CKM" type, as for quarks ; "ubiquity" concept and existence of "probability waves", instead of matter waves, giving serious credibility to the paradoxical lemma of intense radiation from the vicinity of so-called "black holes" and "pulsars" (thus faking genuine "white wells"). Spontaneous individual birth of zero-mass neutrinos (not by pairs, from Lorentz invariance !) might explain the paradoxical excess of "dark energy" over "dark mass", overwhelming at cosmological scales. Opposition is thus made between coherent radiation endowed with gravitational effects, and incoherent radiation with zero gravitational power, as a fundamental lemma for "QUANTUM GRAVITATION". Full necessity of "absolute frames" in dark-matter Relativity is evoked.

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